WHAT IS CLAIMED IS:

1. A control module for controlling fuel delivery in a fuel injector comprising:

a control module housing defining a cavity containing a fluid;

an armature disposed at least in part within the cavity, the armature movable within the cavity, the armature operative to affect the flow of fuel by changing the area of a fuel port through which fuel passes;

a drive for moving the armature, the drive operative to move the armature towards a contact wall of the cavity; and

a fluid passage formed as the armature moves towards the contact wall, the fluid passage remaining open to pass a minimum volume of fluid;

wherein armature vibration is dampened as fluid moves through the fluid passage.

2. A control module as in claim 1 wherein the fluid passage is formed by a dampener sleeve extending from the armature towards the contact wall.

3. A control module as in claim 2 further comprising a stop extending from the armature towards the contact wall, the stop extending farther than the dampener sleeve such that, when the stop contacts the contact wall, the fluid passage forms a minimum passage gap between the dampener sleeve and the contact wall.

4. A control module as in claim 2 wherein the fluid passage is formed by at least one notch in the dampener sleeve.

5. A control module as in claim 1 wherein the fluid passage is formed by a channel in the contact wall.

6. A control module as in claim 1 wherein the armature has a compression side facing the contact wall, the fluid passage formed between a dampener shim on the contact wall and the compression side.

7. A control module as in claim 6 wherein the compression side is circular and the dampener shim defines a circular opening having an opening radius smaller than the compression side radius.

8. A control module as in claim 7 further comprising a stop extending from the compression side towards the contact wall a distance greater than the thickness of the dampener shim.

9. A control module as in claim 1 wherein the armature defines a shoulder at least partially around the armature, the fluid passage formed between a dampener sleeve extending from the contact wall and the shoulder.

10. A control module as in claim 1 wherein the housing further defines a second cavity within which is at least partially disposed a second armature, the second armature forming a second fluid passage, wherein fluid exiting the second armature cavity through the second fluid passage provides dampening of the second armature.

11. A control module as in claim 1 wherein the fluid passage remains open when the armature contacts the contact wall.

12. A method of controlling a flow of fuel in a fuel injector comprising:

moving at least a portion of an armature in a cavity containing fluid;

changing an opening area of a fuel port through the movement of the armature, thereby affecting the flow of fuel;

forming a fluid passage for passing fluid between the armature and a wall defining the cavity as the armature moves towards the wall;

increasing fluid pressure as the fluid passage forms; and

dampening armature vibration through the increasing fluid pressure.

13. A method of controlling a flow of fuel in a fuel injector as in claim 12 wherein forming a fluid passage comprises:

moving a dampener sleeve extending from the armature in a direction of armature motion; and

contacting a wall defining the cavity with a stop extending from the armature in the direction of armature motion farther than the dampener sleeve.

14. A method of controlling a flow of fuel in a fuel injector as in claim 12 wherein forming a fluid passage comprises:

moving a dampener sleeve extending from the armature in a direction of armature motion, the dampener sleeve defining at least one notch; and

contacting the wall with the dampener sleeve.

15. A method of controlling a flow of fuel in a fuel injector as in claim 12 wherein forming a fluid passage comprises capping a portion of a channel formed in the wall.

16. A method of controlling a flow of fuel in a fuel injector as in claim 15 wherein capping a portion of the channel comprises contacting the wall with a sleeve extending from the armature.

17. A method of controlling a flow of fuel in a fuel injector as in claim 12 wherein forming a fluid passage comprises narrowing a gap between the armature and a dampener shim extending from the wall.

18. A method of controlling a flow of fuel in a fuel injector as in claim 17 wherein the armature has a compression side facing the wall and wherein the dampener shim defines an opening facing the compression side, the opening smaller than the compression side.

19. A method of controlling a flow of fuel in a fuel injector as in claim 18 further comprising contacting a valve stop between the armature and the wall to prevent the gap from closing.

20. A method of controlling a flow of fuel in a fuel injector as in claim 12 wherein forming a fluid passage comprises narrowing a gap between a shoulder on the armature and a dampener sleeve fixed within the cavity.

21. A method of controlling a flow of fuel in a fuel injector as in claim 20 further comprising contacting a valve stop to prevent the gap from closing.

22. A fuel injector comprising:

an injector body defining a fuel outlet;

a fuel delivery path for delivering pressurized fuel to the fuel outlet; and

a control module connected to the fuel delivery path, the control module including at least one solenoid for controlling fuel delivery, each solenoid having an armature biased by a spring to contact a wall defining a cavity when the solenoid is not energized, the armature and the wall forming a passage as the armature approaches the wall, the passage passing fluid to dampen vibrations caused by the armature contacting the wall.

23. A method of injecting fuel into an engine comprising:

compressing the fuel;

supplying the compressed fuel to an opening in an injector through a controlled path;

activating a solenoid in the injector to control the flow of fuel along the path, the solenoid having an armature traveling through a fluid containing cavity;

deactivating the solenoid causing the armature to approach a wall defining the cavity;

forming a passage as the armature approaches the wall;

passing fluid from between the armature and the wall through the passage; and

dampening vibrations by passing the fluid.

24. A method of injecting fuel into an engine comprising:

compressing the fuel;

supplying the compressed fuel to an opening in an injector through a controlled path;

activating a solenoid in the injector to control the flow of fuel along the path, the solenoid having an armature traveling through a fluid containing cavity;

deactivating the solenoid causing the armature to contact a wall defining the cavity;

forming a passage as the armature contacts the wall;

passing fluid from between the armature and the wall through the passage; and

dampening vibrations by passing the fluid.